



What's New in Economics?

January, 2004

Volume 1, Number 1

**"Good environmentalism is good economics."
-Barber Conable,
President of The World Bank**



Purpose of Newsletter

As agricultural economist for the Ecological Sciences staff, information and data regarding economics and conservation passes across my desk daily and, until now, I have had no way to pass this information on to the Field. The format of the newsletter will be flexible, changing according to the information I want and/or need to include in the newsletter. In each newsletter, I will discuss current economic trends in Minnesota associated with indicators that could impact the adoption of conservation and agriculture in general. Examples of other topics that may be discussed are my current projects, spreadsheets that I or others have developed to estimate economic costs and benefits, summaries of reports or articles relevant to conservation, and links to useful websites. I may also include statistics regarding conservation in Minnesota and the United States. If you have any suggestions for topics of discussion, please feel free to drop me an email.

Do Conservation Buffers Pay?

An operator walks into a NRCS field office and wants to know how he or she will financially benefit from installing a conservation buffer with and without enrollment in CRP. What type of information would the employee need to provide the operator with an estimate of the costs and benefits of installing a buffer? The Economics of Buffers spreadsheet, originally developed by the National Conservation Buffer Council and updated for Minnesota, calculates the costs and monetary benefits that the producer **may** realize by installing buffers and enrolling them in CRP. The spreadsheet includes detailed instructions. For additional information regarding the costs and monetary benefits of conservation buffers and a copy of the spreadsheet, please contact me via email. My contact information is located on Page 3. Additional resources include:

- *The National Conservation Buffer Initiative: A Qualitative Evaluation* at <http://www.nrcs.usda.gov/feature/buffers/pdf/BufQual.pdf>.
- *Conservation Buffers Work...Economically and Environmentally* at <http://www.nrcs.usda.gov/feature/buffers/pdf/BufferBr.pdf>.

Useful Websites

There are a number of useful economics websites offering information regarding agriculture and conservation. In each Newsletter I will highlight one or two of my favorites.

- <http://www.nrcs.usda.gov/technical/land/pubs/> - This website contains a plethora of analysis publications, such as *Profile of Farms with Livestock in the United States: A Statistical Summary*, published by USDA.
- <http://www.leopold.iastate.edu/> - This website is a great place to learn about sustainable agriculture and the newest publications.



National funding for USDA's EQIP addresses various environmental concerns:

- **Water Quality – 33%**
- **Soil and Land Conservation – 21%**
- **Livestock Manure Nutrients – 19%**
- **Crop Nutrients – 7%**
- **Wildlife Habitat – 6%**
- **Other – 14%**

Source: Based on 1997-2000 data from FSA, USDA and *Amber Waves*, ERS, USDA, April 2003, Volume 1, Issue 2, pg 44.

The Cost of Comprehensive Nutrient Management Plans

The Nation's livestock sector is being scrutinized for their potential contribution to non-point source pollution of water sources in Minnesota and the Nation. The USDA and EPA released a Strategy in 1999 presenting a plan to address potential impacts of animal feeding operations (AFOs) on water quality and public health. The Strategy purposed that all AFOs should develop and implement a comprehensive nutrient management plan (CNMP) and called on USDA and EPA to assess the costs and benefits of CNMPs.

In June of 2003, USDA released Part I of the *Costs Associated with Development and Implementation of Comprehensive Nutrient Management Plans (CNMPs)*. The report addresses the cost of upgrading livestock facilities and practices to meet CNMP technical guidance and the technical assistance (TA) needed to plan, design, implement, and follow up on new and/or upgraded structures and practices. Part II will address the cost of alternatives to land application of manure and ways to minimize the potential for excess nutrients.

Summary of Part I

To begin the analysis, the number of operations needing a CNMP was estimated based on the following three criteria: Number of animals, amount of recoverable manure, and specialty livestock. Based on these criteria, the total number of census farms in the US that are expected to need a CNMP is 257,201 farms. Of the farms needing a CNMP, 52,817 are located in the Lake States (Minnesota, Wisconsin, and Michigan) and are classified as 2.2% large farms, 6.4% medium farms, and 91.5% small farms. For this report, small farms are defined as farms producing less than 4 tons of manure phosphorus annually, while farms producing more than 10 tons of manure phosphorus annually are considered larger operations.

Based on a number of assumptions laid out in the report, the annual CNMP costs per farm for the Lake States are as follows:

- Recordkeeping Costs per Farm = \$123 per year
- Nutrient Management Costs per Farm = \$1,430 per year
- Off-farm Transport Costs per Farm = \$257 per year
- Land Treatment Costs per Farm = \$990 per year
- Manure & Wastewater Handling / Storage Costs per Farm = \$1,669 per year
- **Average CNMP Implementation Costs per Farm = \$4,469 per year**
- CNMP Development Costs = 170 hours per farm

It is important to remember that there are several items that limit the accuracy of the estimates such as uncertainty regarding input data and assumptions, changes in the livestock sector, state and local regulation, and inflation and potential cost offsets. The CNMP Implementation Costs per Farm are estimates and should be starting point when analyzing CNMP costs in Minnesota not as a final destination. If you are interested in reading the report, check out the web link listed in the following section.

Web Link

Costs Associated with Development and Implementation of Comprehensive Nutrient Management Plans, Part I – Nutrient Management, Land Treatment, Manure and Wastewater Handling and Storage, and Recordkeeping is located at <http://www.nrcs.usda.gov/technical/land/pubs/cnmp1.html>. The report was published by USDA and was issued June 2003.

2003 Minnesota Harvested Acres, Yield, and Production as of January 12, 2004

Commodity	2002 Harvested Acres (000)	2003 Harvested Acres (000)	2002 Average Yield	2003 Average Yield	2002 Production (000)	2003 Production (000)
Minnesota						
Corn (Bu)	6,700	6,650	157.0	146.0	1,051,900	970,900
Soybeans (Bu)	7,100	7,400	43.5	31.0	308,850	229,400
Spring Wheat (Bu)	1,800	1,800	34.0	58.0	61,200	104,400
Barley (Bu)	165	170	39.0	75.0	6,435	12,750
Oats (Bu)	285	265	56.0	71.0	15,960	18,815
Sugarbeets (Ton)	476	487	18.6	20.6	8,854	10,032
Dry Beans 1/	150	110	1,650	1,700	2,475	1,870
Canola (lb)	45	56	850	1,820	38,250	101,920
Oil Sunflowers (lb)	37	54	1,450	1,650	53,650	89,100
Non-Oil Sunflowers (lb)	27	34	1,200	1,550	32,400	52,700
Alfalfa Hay (ton)	1,600	1,375	3.30	3.00	5,280	4,125
Other Hay (Ton)	700	700	1.90	1.60	1,330	1,120
Alfalfa Haylage2/	400	300	6.80	5.40	2,720	1,160
All Alfalfa Forage3/	1,850	1,525	3.58	3.23	6,624	4,926
Fall Potatoes (Cwt) 4/	55	58	340	385	18,700	22,330
1/ Yield in lb; production in cwt						
2/ Estimates began in 2000. Yield and production (tons) in green weight basis.						
3/ Estimates began in 2000. Yield and production (ton) in dry weight basis (13% moisture)						
4/ Estimate as of November 12, 2003.						
Source: Minnesota Agriculture Statistics Service, 2003 Annual Crop Summary, January 12, 2004						

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